

# MANUFACTURING EXTENSION PARTNERSHIP

## Success Stories from the Field

### General Dynamics C4 Systems

#### Massachusetts Manufacturing Extension Partnership

#### General Dynamics Tempers the Links in their Supply Chain

##### Client Profile:

General Dynamics C4 Systems (GDC4S), a business unit of General Dynamics, is a leading integrator of secure communication and information systems and technology. General Dynamics, headquartered in Falls Church, Virginia, is a market leader in business aviation; land and expeditionary combat systems, armaments and munitions; shipbuilding and marine systems; and information systems and technologies. General Dynamics C4 Systems employs 350 people at its facility in Taunton, Massachusetts.

##### Situation:

General Dynamics had been working with Rich Emmons of the Massachusetts Manufacturing Extension Partnership (Mass MEP), a NIST MEP network affiliate, on the company's Lean Implementation. GDC4S participated in Mass MEP's Basic Lean Training (Time wise® Lean 101), and Value Stream Mapping and Kaizen events had become valuable tools for the company. GDC4 wanted to take it to the next level and work with their suppliers. "Creating long-term relationships with suppliers is critical to our success," Sylvia said. "Doing so extends ownership and risk; GDC4 can't do everything ourselves; we must rely on other sources to collaborate with us. The more suppliers understand these principles, the more successful they will be at helping us meet our goals." The company contacted Mass MEP for help.

##### Solution:

Mass MEP's Emmons and GDC4S's Lean Six Sigma Program Manager, Bill Sylvia, approached General Dynamics to see if they would consider being the pilot for a new offering which would partner OEM, suppliers and State or Federal grants with each providing one-third of the cost. Participating suppliers must be willing to change, must be committed to Continuous Improvement, and must participate without the explicit guarantee of additional work from General Dynamics for doing so. Mass MEP had done research and was able to utilize Department of Labor ETA funding for initial supplier assessments and Economic Stimulus grant monies toward other program costs. To start, an assessment team visited participating suppliers and used specific tools to analyze facilities and processes. Next, the team met with the suppliers to discuss their goals which they combined with suggestions from the assessment findings and used to devise an individual plan. A Capstone Event was held to share results and ideas in a roundtable forum.

Direct contact between GDC4 and their suppliers, Nu Visions, JEM Electronics, and CDP Fastener Group, Inc., has brought the following results:

Nu Visions, a supplier of printed wiring assemblies to GSC4 for 10 years, focused on winning the Shingo Prize which would help them concentrate on doing Lean overall and aim for meaningful metrics that would benefit them as a company. After obtaining a workforce training grant, the company chose to do the Time Wise LE101 basis Lean training and then TPM (Total Productive Maintenance) and Set-up Reduction Kaizens to help reduce set up and change over times. Time for repairing damaged

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boards was reduced from 23 days to two to three days, or 88 percent.

JEM Electronics, a contract manufacturer of cable and electromechanical assemblies, began with Le101 events and experienced a growth of 35 percent. President John McDonald said, "Lean training created excitement at all levels. The Le101 got us started early on the right foot." Next, they did some Value Stream Mapping, reducing process time from 8.5 days to 2 days on an existing motor and delivered the motor in 24 hours. Mass MEP brought in their associate, Jose Garcia, to work on a cell design for a bilingual group. JEM is using visual signs and standardized work with photos to everyone can understand. With cellular flow, production time has been reduced from 22.5 hours to 11 hours on a particular part.

CDP Fastener Group, Inc., utilize frequent "bread runs" to replenish fastener kits for hardware stock as needed. Value Stream Mapping showed the company had 14 processing steps from request for quote to shipping. The lead time was 7 days, and the process time was 34 minutes. After a series of Kaizen events, processing steps were reduced to 11, with 5 days lead time and 31 minutes of processing, an improvement of 21.5 percent. CDP plans to invest between \$35,000 and \$70,000 in build outs and other improvements to put materials closer to where they are needed.

#### **Results:**

- Nu Visions
  - \* Reduced time to repair damaged boards by 88 percent.
- JEM Electronics
  - \* Reduced process time for 8.5 days to 2 days.
  - \* Reduced production time from 22.5 hours to 11 hours.
- CDP Fastener Group, Inc.
  - \* Reduced processing time by 21.5 percent.
  - \* Anticipated investment of \$35,000 to \$70,000 in plant improvements.

#### **Testimonial:**

"General Dynamics became involved in the supply chain program to give us and our suppliers tools to use to get Lean and to consolidate spending. We want to maintain sustainability from our vendors to the contracts we supply. When we can ensure that the vendors and products are in place, we can immediately react to the needs of our customers."

Brian Fraser, Strategic Sourcing Team